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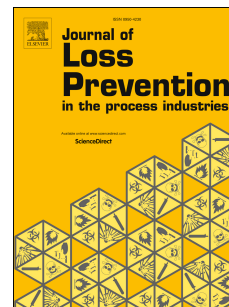
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Application of polymer nanocomposites in the flame retardancy study

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Abstract

Application of polymer products is almost universal; however, the flammability of these hydrocarbon-based materials needs attention. Flame retardant additives have been studied for reducing the flame spread in a fire involving polymers. Polymer nanocomposites is a relatively new class of flame retardant material that has shown improved thermal stability and flammability properties and therefore, have received attention from the scientific community. This paper provides an overview of different types of flame retardant additives and their mechanisms, especially polymer nanocomposites. The synthesis and characterization techniques for analyzing the morphology, thermal and flammability properties of polymer nanocomposites have also been discussed. The overall objective is to provide a summary of the application of polymer nanocomposites in the field of flame retardancy and associated techniques to study these materials.

Keywords: *polymer nanocomposites; flame retardancy; flammability; thermal*

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